

Public outreach programs for new development

Low-Impact Development

Public Education and Outreach on Storm Water Impacts

Description

Using low-impact development (LID) approaches for new development can help to achieve storm water pollution reduction goals. Through LID approaches, storm water runoff can be controlled while development objectives are achieved.

An important component of a municipal LID program is public outreach. The first step in achieving LID is to encourage developers to adopt such approaches. This is followed by the development and implementation of a program to ensure that design standards are met and that homeowners are adequately informed of their responsibilities. The latter should be the responsibility of the developer and homebuilder.

This outreach takes the form of the developer's communicating maintenance instructions and pollution prevention measures to the property owners. The public outreach program informs property owners of their responsibilities to the environment. When successfully implemented, LID education and awareness programs accomplish the following:

- Establish a marketing tool that allows developers to attract environmentally conscious buyers
- Create more landscaped areas, enhancing the aesthetics of developed areas
- Educate property owners on effective pollution prevention measures
- Promote the proper maintenance of best management practices
- Inform commercial property owners of potential cost savings from using LID approaches

Applicability

Outreach for Residential Properties. LID public outreach programs accomplish the above goals by providing residential property owners with essential information to maintain a property in an environmentally friendly manner. For example, one of the critical aspects of these programs is teaching property owners to maintain previously installed pollution prevention and best management practices properly. The developer or local public agency should communicate to current or potential property owners the benefits of LID, as well as their individual maintenance responsibilities as property owners. For example, property owners should understand that effective management of an LID property includes maintaining vegetative buffers, removing trash and debris from outflow points, using fertilizers properly, sweeping paved areas, practicing water conservation, and using mowing practices that promote runoff infiltration.



Directing runoff from impervious surfaces, such as parking lots, onto vegetated areas using curb cuts can achieve pollutant removal and reduce runoff quantity through infiltration

Outreach for Commercial Properties. Municipalities should consider three objectives when developing an outreach program for commercial properties. First, they should educate developers and provide incentives to incorporate LID practices into their designs. Second, they should educate existing commercial property owners and provide incentives to retrofit their properties with LID practices, especially for areas adjacent to sensitive waterbodies. Finally, municipalities should provide guidance and other assistance to property owners who have already incorporated LID practices into their landscapes.

Implementation

Development of public outreach programs for LID properties should be tailored to a specific site and audience. The first step in developing a public outreach program is to identify the objectives of the program. For example, is the goal of the program to educate potential property owners about the maintenance requirements of best management practices, or simply to inform commercial property owners of the potential cost savings of LID? These goals should be considered when selecting outreach materials for distribution.

The next step in the development of an outreach program is to identify the target audience. For residential, commercial, or industrial LID properties, the developer might need to communicate with diverse audiences, including potential buyers, new property owners, builders, construction site managers, homeowner associations, and current property owners. The message to each respective audience differs slightly. For example, developers often promote the environmental benefits of LID to potential buyers by emphasizing measures such as reforestation or landscaping practices conducted at a site. Potential buyers must also be informed of their responsibility to maintain measures that have already been implemented. When dealing with builders and site construction managers, the developer must inform all parties of appropriate phasing and construction practices necessary to properly implement management practices. Developers must also provide new property owners with a set of conditions to be met with the acquisition of the land. After the property is transferred to a new owner, the developer should assign someone to train the new property owners and monitor maintenance activities.

When the goals and the specific audiences are identified, the development and transfer of information to the property owner can be achieved in several phases.

Program Planning. In the program planning phase, the developer meets with county or state review agencies to determine which best management practices are applicable and to identify the maintenance requirements of a specific property. The developer should obtain and understand documentation of the construction and maintenance requirements of the best management practices and then pass this information on to the property owner. The product of the program planning phase is a set of informational materials that provide the property owner with general information on LID as well as specific property maintenance information.

Buyer Awareness. In the buyer awareness phase, the developer must make the potential property owner aware of the benefits and the responsibilities of owning a LID property. The developer should inform the potential buyer of the aesthetic and financial value of the management practices that have been implemented on the property. In addition, it should be emphasized that the responsibility of maintaining best management practices on the property falls on the potential property owner. In this phase, the potential owner should be provided with maintenance materials that outline the basic requirements for the best management practices (BMPs) located on the property.

Settlement Documents. The sale of LID sites typically involves legal information and instruments to ensure that the property will be properly maintained. These legal approaches may include easements, covenants, homeowners' association requirements, or other instruments. The maintenance requirements for these documents can be developed from brochures, fact sheets, and sample documents from the county. The requirements and wording often must be approved by a review agency. When these documents have been compiled, the developer must allow the buyer to evaluate and then accept the terms associated with acquisition of the land.

Inspection. During the construction phase, county inspectors should be on-site to ensure that BMPs and proper construction practices are followed. To avoid construction problems, the developer should communicate with the builder and site construction manager to make them aware of appropriate phasing and construction practices.

Maintenance. The maintenance of the BMPs is ultimately the responsibility of the new property owner. After the initial property transfer, however, the developer should assign someone to ensure that the maintenance procedures and operations are being followed consistently.

Throughout this process, the potential property owners and buyers should be provided with materials that allow them to understand the importance and the maintenance of LID properties. Brochures, manuals, and fact sheets on BMPs, pollution prevention, proper construction measures, car and lawn care, water conservation, and property management should be distributed during each phase of the process. Such outreach information is usually available from county or state environmental agencies.

Other Programs. In 1999, the city of Chicago began its Urban Heat Island Reduction Initiative, aimed at reducing urban air temperature and pollution and beautifying the downtown area. As a secondary benefit, the practices used in this program also benefit storm water runoff. The city is using light-colored rooftops, creating rooftop gardens, planting trees in areas without existing trees, and replacing asphalt with porous pavement (USEPA, 2000). More examples of successful implementation of LID practices can be found at the Low Impact Development Center's web site at www.lowimpactdevelopment.org.

Effectiveness

Because LID is a relatively new concept, its effectiveness with respect to water quality improvement and water quantity reduction is largely untested. Many of the practices associated with LID, such as bioretention swales, dry wells, filter and buffer strips, and infiltration trenches, have been evaluated with respect to pollutant removal and hydrologic control, as shown in Tables 1 and 2.

Table 1. Reported pollutant removal efficiencies of LID practices (Prince George's County, Maryland, 2000).

Practice	TSS ^a	Total P ^a	Total N ^a	Zinc	Lead	BOD ^a	Bacteria
Bioretention Swales	-	81	43	99	99	-	-
Dry Wells	80-100	40-60	40-60	80-100	80-100	60-80	60-80
Infiltration Trenches	80-100	40-60	40-60	80-100	80-100	60-80	60-80
Filter and Buffer Strips	20-100	0-60	0-60	20-100	20-100	0-80	-
Vegetated Swales	30-65	10-25	0-15	20-50	20-50	-	Neg.
Infiltration Swales	90	65	50	80-90	80-90	-	-
Wet Swales	80	20	40	40-70	40-70	-	-
Rain Barrels	NA	NA	NA	NA	NA	NA	NA
Cisterns	NA	NA	NA	NA	NA	NA	NA

^aTSS=total suspended solids; Total P=total phosphorus; Total N=total nitrogen; BOD=biological oxygen demand

Table 2. Hydrologic functions of LID practices (Prince George's County, Maryland, 2000).

Hydrologic Functions ^a	Bioretention Swales	Dry Wells	Filter and Buffer Strips	Grass Swales	Rain Barrels	Cisterns	Infiltration Trenches
Interception	H	N	H	M	N	N	N
Depression Storage	H	N	H	H	N	N	M
Infiltration	H	H	M	M	N	N	H
Groundwater Recharge	H	H	M	M	N	N	H
Runoff Volume	H	H	M	M	L	M	H
Peak Discharge	M	L	L	M	M	M	M
Runoff Frequency	H	M	M	M	M	M	M
Water Quality	H	H	H	H	L	L	H
Base Flow	M	H	H	M	M	N	L
Stream Quality	H	H	H	M	N	L	H

^aH=high; M=medium; L=low; N=none

Benefits

The benefits of LID are many. First, it addresses hydrologic changes caused by development at the site level, which reduces the downstream impact of increased imperviousness. Second, LID practices, when used in combination with each other and with traditional treatment practices such as regional retention ponds, reduce pollutant loading to receiving water bodies, as shown in Table 1. Third, many LID practices involve natural landscaping including the planting of trees, shrubs, and flower gardens--these elements enhance the aesthetics of the site and reduce mowing requirements. If the plants are wisely chosen from local species and locally grown stocks, watering and fertilizer requirements can be reduced because the plants are adapted to local climate conditions. Finally, careful regrading and well-sited depressional storage areas can improve overall site drainage, help prevent pooling and creation of mosquito-breeding habitat, and reduce both onsite and downstream flooding.

Limitations

LID can be applied at many different scales, from a simple bioretention swale at the low point of a home site to large-scale subdivision planning with narrow streets, conservative layouts, and multiple, integrated management practices. This flexibility allows watershed managers to be able to use LID at most new development sites. Some LID applications can be limited by existing development codes that dictate minimum street and sidewalk widths, pavement types, setbacks, and other design details. An excellent resource that deals with the issue of changing restrictive development rules is called *Better Site Design: A Handbook for Changing Development Rules in Your Community* (CWP, 1998).

Costs

The costs for the municipality to encourage homebuilders and developers to implement LID are dependent on how municipalities want to market LID. LID approaches could be added to the locality's comprehensive plan or design standards. The updating of these documents would have some costs associated with them. Information brochures, flyers, and posters could be displayed in the local planning office and in other areas of government buildings. To promote LID to developers, information seminars and meetings could be held, which involve costs associated with paying employees to conduct such sessions.

The costs associated with LID applications vary with the scope of the application. In some cases, costs for designing depressional storage and other LID elements can be incorporated in the general design costs. Additionally, depressional storage areas can be incorporated into the overall grading plan, yielding a neutral cost for these additional elements. Bioretention swales and other structural management practices cost more to install than their turf or pavement alternatives but cost-savings can be found over many years with reduced maintenance requirements relative to turf and pavement, as well as reduced costs of retaining and treating storm water.

References

CWP. 1998. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. Center for Watershed Protection, Ellicott City, MD.

Low Impact Development Center. 2000. *Low Impact Development*. [www.lowimpactdevelopment.org]. Last updated September 5, 2000. Accessed April 9, 2001.

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Pollution prevention programs for existing development

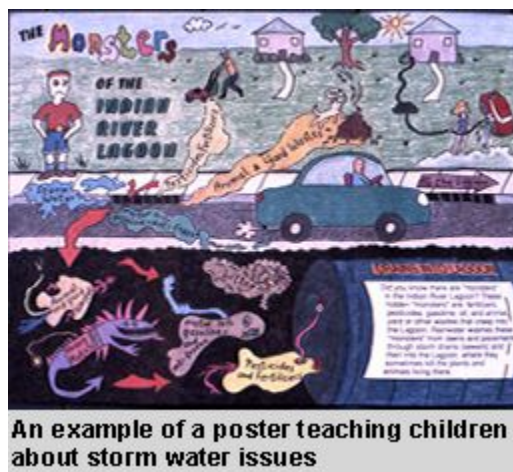
Educational Displays, Pamphlets, Booklets, and Utility Stuffers

Public Education and Outreach on Storm Water Impacts

Description

Printed materials are a common way to inform the public about storm water pollution. Some municipalities have a public relations department or a staff member that handles these types of outreach materials, whereas others contract with public relations firms and graphic designers to develop materials. Regardless of who actually produces the materials, municipalities should be creative when deciding which media to use and what types of messages are appropriate for those media. They also need to consider the following questions:

- Who is the audience? (i.e., general public, developers, homeowners?)
- How does the audience get its information? (i.e., newspaper, television, trade magazines, utility bills?)
- What knowledge base does the audience have?
- Does the audience need to be convinced about the importance of storm water pollution control?



An example of a poster teaching children about storm water issues

These and other questions can guide municipalities in choosing the appropriate media and designing a message with the appropriate tone and level of information.

Some common printed materials include educational displays, pamphlets, booklets, and utility stuffers. Computer desktop publishing has made the production of many of these materials fun and easy. If money is tight, or there is limited access to a computer, attractive and effective materials using basic resources such as a photocopy machine, scissors, and glue can still be effective.

When designing the layout of a display, pamphlet, or flyer, the following issues should be considered:

- Restraint in design, consistency in artwork and graphic types, and quality materials are important factors because the audience should be invited into the materials with appealing, user-friendly layouts.
- The text should be kept to a minimum but still be interesting for readers.
- Using various formats and an active voice can make the text more engaging.
- Graphics--photos, logos, or other artwork--are great for breaking up long blocks of text, allowing readers a visual break.
- Images of lakes, streams, rivers, wetlands, and other storm water features are "naturals" for enhancing any printed material. The emotional appeal they elicit can be tremendous.

Applicability

Educational displays, pamphlets, booklets, and stuffers can be easily exhibited and distributed to a large population. They can be made using simple materials and graphics, or they can be made more elaborate. Furthermore, these displays can be made for any and all age levels, in any language, or for specific audiences.

Implementation

Educational Displays. Educational displays can be an effective way to convey information regarding a storm water pollution reduction campaign or program. These materials can be displayed at the following venues:

- Conferences.
- Seminars.
- Libraries.
- Outdoor events.
- Schools.
- Other community events.

These places provide an excellent opportunity for sharing information, educating and involving citizens, promoting volunteerism, and building general awareness.

Municipalities can elect to purchase a popup display and contract with an artist to design it, or they can design it in house. The displays should be visibly pleasing as well as informative. The overall design of the display should attract attention, draw the viewer in, and lead the eye throughout. Whenever possible, the display should be staffed to offer further explanation and answer questions.

Displays can be constructed from wood, cardboard, poster board, or other heavy material, but they are usually designed to be easily put together and dismantled, as well as being portable. Wooden displays (with metal hinges) have the advantage of longevity, but they can also be heavy. Commonly displays are made of foam board, which is relatively inexpensive and both lighter in weight and more durable than poster board.

When composing any large-format display, the entire display space should be treated as if it were a page layout, a photograph, or a painting. The same basic elements of composition governing good design and flow apply. The following considerations should be made when designing an educational display:

- A common mistake in preparing a display is the tendency to place many small items in a big space.
- If the project requires distributing a lot of information, a separate informative piece, such as an illustrated fact sheet, flyer, or brochure can be included to convey the details of the project.
- Whenever possible, it is better to "show" than "tell."
- A variety of photos, drawings, charts, and text should be included.
- Different fabrics or papers can be placed over the backdrop of the display to add texture. For example, if a display highlights a storm water stenciling project, a stream can be used as a backdrop and photos of stencil volunteers and a stenciled message can be included.
- Most importantly, the focus should be on the objective of the display, why it is being presented, what message it is intended to deliver and to which audience, and what it is trying to accomplish.

Pamphlets and Booklets. Pamphlets, booklets, and brochures are an effective way to present and explain a storm water message. Unlike many other communication vehicles, pamphlets and booklets can be distributed in many places without requiring someone to staff them. Racks of pamphlets can be set up at libraries, schools, offices, and fairs. They can be passed out at meetings and used in a direct mail campaign. Before creating a pamphlet or booklet, it is important to think through the purpose of the piece and its intended audience. It might be intended to solicit interest in a specific storm water event or activity, or to promote storm water education and positive behaviors. The purpose will significantly define the appearance and content.

Flyers. In addition to a booklet or pamphlet, a one-page flyer can be produced to carry the basic message. A short, to-the-point flyer is essential as the primary education tool for programs with a small budget. Commonly, flyers list the basic do's and don'ts of water pollution and list the top 10 actions the public should take against storm water pollution. The flyer should contain the basic "bare bones" list of information the public needs to know. The flyer should be designed to be easily reproduced for newspapers and newsletters (black-and-white and reproducible by copy machine), a major venue for communicating with the public. The flyer can be designed as a self-mailer; as funds become available, it can be expanded into a poster, calendar, or booklet.

Utility Stuffers. As with pamphlets, booklets, and flyers, utility stuffers offer an inexpensive, convenient way to convey the message to a large audience. However, instead of being targeted at a specific audience, utility stuffers must be appropriate for the public. These inserts can be extremely effective if they are engaging, concise, and memorable. They are often used to impart brief, important messages, provide overviews of the problems and solutions, or implore simple actions. When designing the insert, explore options regarding paper and ink colors, type faces, and type sizes; the text should be kept brief, the letters fairly large, and the design attractive. Special care should be taken to ensure that the message is simple, concisely written, and tells the reader why this issue is important to them.

Signs and Billboards. Striking graphics and brief but strong messages about storm water pollution can make a real impact on billboards along busy roadsides. These messages can be watershed-specific to remind citizens of the specific resource they are protecting. Additionally, signs with storm water pollution information can be posted on bridges, along roadsides, and at parks. For example, Michigan community installed a water monitoring gauge and interpretive display panel on a downtown pedestrian bridge (Grand Traverse Bay Watershed Initiative, no date). Storm water information could easily be added to this display. Signs intended for pedestrians can contain more information, but text should still be kept at a minimum to hold the audience's interest.

Benefits

Each of these types of material is versatile and can be tailored to many different types of audiences. A brochure can be written for the general public and later edited so that it reaches individuals within the storm water industry. These materials can be relatively inexpensive and can reach large groups of people, especially when displayed in public places (e.g., public libraries).

Limitations

Care must be taken to ensure that the message is easily understood by the targeted audience. Another limitation is the cost of designing, producing, copying, and displaying the materials.

Costs

Costs vary among printed outreach materials. Among other factors, the size, shape, detail, and amount of color on materials can vary widely. When preparing the budget, contact individual vendors for more accurate production cost figures. Staff time for planning, designing, and distributing the materials will also need to be budgeted.

References

COSG. No date. *Getting in Step--A Guide to Effective Outreach in Your Watershed*. The Council of State Governments, Lexington, KY.

Environmental Health Coalition. 1992. *How to Create a Storm Water Pollution Prevention Campaign*. Environmental Health Coalition, San Diego, CA.

Grand Traverse Bay Watershed Initiative. Contact Christopher Wright, 1102 Cass Street, Suite B, Traverse City, MI 49684, or e-mail to gtbwi@traverse.com.

Using the Media

Public Education, and Outreach on Storm Water Impacts

Description

The media can be strong allies to a storm water pollution prevention campaign in educating the public about storm water issues. Through the media, a program can educate targeted or mass audiences about problems and solutions, build support for remediation and retrofit projects, or generate awareness and interest in storm water management. Best of all, packaging a storm water message as a news story is virtually free! Surveys repeatedly show high interest among the public in environmental issues, and water quality--particularly as it relates to drinking water and recreation--rates very high. Reporters are always looking for informative articles, features, or columns to fill their pages or broadcasts. As with many public education activities, it is important to do some preliminary work to refine your message and target your audience to ensure that you deliver the most effective message.



Television can be an effective means of informing the public about storm water problems and outreach events

Applicability

Delivering educational, promotional, or motivational messages through the news media is similar to distributing them through other channels. For best results, the message should be repeated periodically and linked to something the audience values. Coverage of watershed issues from several different angles can help to accomplish this. News is the lifeblood of the media, so the message must be packaged to attract coverage. Orienting the message to the workings of the media and the needs of reporters will help keep the message focused and effective.

Implementation

The following are some of the ways storm water news and educational materials can be communicated by the media.

Newspapers and Magazines. Newspapers are powerful vehicles for delivering educational information, policy analyses, public notices, and other messages. Many displays at watershed seminars proudly post newspaper articles on the projects being presented in recognition of the importance and impact of newspaper coverage. Published news articles are almost always longer and more analytical than television stories, and they can be read by several people at their own leisure without the "hit or miss" nature of broadcasts. Graphics such as photos, charts, and tables can provide added perspective to published stories and can deliver complex information on trends or other data in an easily understood format. Public access to newspapers is usually excellent; no specialized equipment is needed. In addition, the vast need for new articles to fill pages of a daily newspaper means reporters may be particularly interested in covering storm water issues.

Newspapers can be accessed in several ways. Depending on the message or event, the appropriate format might be a news release, news advisory, query letter, letter to the editor, or (for urgent, timely information) a news conference.

It is important to obtain information on deadlines. In some cases, it might be more strategic to place an ad in a weekend paper, if circulation is stronger on the weekends. Also there might be certain times of the year when fewer stories or ads are purchased, which would make any ad or story more prominent.

Magazines. Magazines, like newspapers, allow for greater length and analysis than television and provide the additional benefit of targeting specific audiences (e.g., landscapers, automobile mechanics, farmers, or recreationists). It is also important to follow the news on a regular basis. If a magazine will be covering an article on storm water in an upcoming issue, an ad in that issue would be even more appropriate. However, unless a magazine is local, it is unlikely that an article relating to storm water will reach the correct audience.

Radio. In spite of the popularity of video, radio remains a strong media contender due to its affordable production costs and creative possibilities. Further, commuters who drive to work spend much time in their vehicles. Radio is everywhere and nearly everyone hears it at some time or some place every day. Of course, those same universal qualities are what dilute its impact as well, since radio can become background noise. The message must be repeated often to reach listeners at various times. To saturate whole markets, the message should be distributed to many stations.

Local radio stations often have feature programs, but they do not cover news in depth. Public stations may devote more time to news or educational programs, but might not reach the target audience. To make sure the targeted audience is reached through radio, match the message to the type of format of the station. Radio has format varieties ranging from musical selections of metal and rock to country and jazz, as well as talk formats. Although the extremely short nature of spot news coverage on radio does not lend itself well to deep analysis and lengthy information delivery, radio can play a valuable role in reinforcing other outreach efforts conducted among specific audiences.

When preparing for a radio spot, it is important to get right to the central point of the project, because airtime is short. To minimize production costs, scripts should be prepared and sent in for live radio. Typed and double-spaced copy is required for community calendars and other public notice programs. The ad's release can be tied to a special day or event (such as Earth Day), and updating it with different angles later will improve its effectiveness. Scripts should be written for listening, and submissions should be supported with follow-up calls or letters, or even promotional items like posters.

Television. Television is the primary source of news for the majority of the population, and local reporters are generally interested in covering environmental stories that pertain to their area. Television news stories tend to focus on people and therefore must be engaging and compelling. Issues will attract television coverage if they

- Involve local people or issues.
- Focus on unique or unusual attributes.
- Affect many people throughout a region.
- Involve controversy or strong emotions.

News Conferences. To heighten awareness of some breaking information or an event that is too important for a news release, a news conference might be appropriate. Two days before the conference, a media advisory should be sent to all news outlets in the area and should be followed up with a phone call to confirm attendance and answer any questions. Typically a news conference begins with distribution of a news release that contains the reason for the conference, informative quotes from people involved in the issue, and contact information. A moderator then makes a few welcoming/introductory remarks and introduces other speakers or makes a statement (which is often read). Remarks by all speakers should be carefully prepared. The floor is then opened for questions, which can usually be anticipated and prepared for beforehand. After the conference, a news release is sent to media members who did not attend.

When preparing for a planned event (such as river cleanup or storm drain stenciling), a news advisory can be sent to local stations. Every advisory should include a description of the event, when and where it will take place, who will participate, and a phone number for someone who can be contacted for more information. The press advisory can be sent 1 or 2 weeks before the event occurs and should include the name of the organization, a contact name, and the reason for calling. If reporters do not show up at the event, a follow-up news release can be sent immediately afterward so the event can still be covered.

Public Service Announcements. Public service announcements (PSAs) can be a very successful outreach approach if they are well broadcast. Newspapers will list PSAs for events or activities that are either free of charge or sponsored by nonprofit organizations. Radio stations will run PSAs that they think are of interest to their audiences. Information on an activity such as a watershed festival, storm drain stenciling, or river cleanup, or pollution hotline numbers, would make good PSAs. Although radio PSAs are free, they sometimes air late at night or very early in the morning (which might make it difficult to reach the target audience). Television PSAs can be highly effective if aired on selected stations at appropriate times for the audience. All PSA information should be submitted at least one month in advance. If a municipality has not prepared a PSA in the past, it is advisable to seek advice from another agency or to use a professional company to help in preparing PSAs.

Internet Message. Increasingly, the Internet is becoming a powerful means of communication. It provides worldwide access to hundreds of thousands of sites containing millions of documents, chat rooms for special interest groups, and incredible database/mapping features. Because the World Wide Web is used regularly and extensively by agency personnel, environmental group leaders, and the business community, it can be a valuable tool in conveying a storm water pollution message. However, average citizens still get the great bulk of their environmental messages from more traditional venues. Additionally, a Web-based message is geared toward a specific audience that is "connected" and perhaps already attuned to the cause and its objectives.

If the municipality already has a web site, storm water information can be posted on it. Information should be placed on the page of the department that handles storm water and on any other relevant department's page. If there is enough interest, the department can develop an automated e-mail address list (list server), which is a very inexpensive means of disseminating information to interested parties. Some active storm water programs may find it useful to establish an e-mail list server to keep participants updated on meetings, policy discussions, and other matters. A list server is simply a distribution list recorded in an e-mail account, which allows a message to be sent to everyone on the list at once. Implementing this communication link is simple and allows stakeholders to keep informed of developments at their leisure. E-mail is the preferred communication medium among many citizens, business people, and agency officials, because it can be accessed at convenient times and provides a written record of the communication.

There are opportunities to reach particular audiences (e.g., recreational fisherman, automobile mechanics, farmers) via the Internet through interest group Web sites. However, along with citizens of the watershed involved, national audiences may also be reached through these Web sites. Explore these sites before deciding to use them in the outreach program. The Internet will likely become more important to local watershed outreach efforts in the future.

San Diego County Successfully Partners with the Media. San Diego County's Environmental Health Coalition (EHC) used the media several times during its storm water pollution prevention program. PSAs were put in newspapers for EHC's collection event in the watershed, and a media kit on urban runoff was developed. In addition, the coalition held two news conferences. The first news conference was called to announce the release of the Chollas Creek Watershed Protection Calendar, which involved a competition for page designs. It was held aboard a cruise ship and featured the winning student artists and posters. After the conference, all participants were invited to remain aboard for a tour of San Diego Bay, which is the resource the Coalition is trying to protect. The event was covered by the leading local TV station.

The second event was for the release of a media kit on urban runoff and was attended by a state senator and representatives of the Surfrider Foundation. Storm drains near the San Diego County Administration Building were stenciled. All major media covered the conference. EHC's media kit was funded by the city of San Diego.

Neighborhood Association Newsletters. Many neighborhood and homeowner associations regularly publish newsletters. Adding information about storm water, especially how individuals can help, would target specific areas and would increase a sense of acting locally. Oftentimes, such associations are looking for new topics and speakers for club events.

Benefits

There are obvious benefits to using the media to inform people of storm water events and issues. In some cases, such as in public service announcements, there is no cost involved. Using the media can help spread the message beyond the local area. To be the most successful outreach program possible, at least one staff member should become a media expert for future press releases, ads, and other projects.

Costs

Working with the media is essentially free, but not always. News releases and articles are free of charge. Newspaper, radio, and PSAs are also typically available at no cost although there may be a fee to run PSAs on certain television stations. Local stations should be contacted before submitting a PSA for cost estimates. Running an Internet message on an existing web site is cost-free. If a new site is posted, there might be charges from the Internet host company.

References

Environmental Health Coalition. 1992. *How to Create a Storm Water Pollution Prevention Campaign*. Environmental Health Coalition, San Diego, CA.

The Council of State Governments. No date. *Getting in Step--A Guide to Effective Outreach in Your Watershed*. The Council of State Governments, Lexington, KY.

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Promotional Giveaways

Public Education, and Outreach on Storm Water Impacts

Description

Once a storm water education and outreach program has been developed, it can be marketed through promotional giveaways. Promotional giveaways are small tokens with storm water education slogans and graphics. They are free items given to people to help them become aware of environmental issues.

Applicability

Promotional giveaways are an effective means of promoting storm water organizations, simple actions, and general awareness. A number of items, such as posters, calendars, frisbees, magnets, key chains, tote bags, coffee mugs, bumper stickers, and baseball caps, are appropriate promotional items. When choosing a giveaway item, it is important to consider the cost (items such as T-shirts and hats are relatively expensive) as well as the alternative message it might send. For example, a frisbee might conflict with a campaign to reduce plastic waste.



Some examples of storm water promotional give-aways

Implementation

When designing promotional items, a professional printer can be consulted to make sure the design can be reproduced effectively, inexpensively, and on a number of different materials. The design theme or logo should be carried throughout all printed materials and accessory items. Consideration should be given as to the types of products to use. For example, if using mugs, a strong, clear design should be selected and the mug should be dishwasher-safe. The cost of packaging, mailing, and distributing the items should be considered; advertising specialty companies can be consulted for ordering in quantity to reduce costs. Finally, plenty of time should be allowed for design, production, printing, and distribution of promotional items.

The products should be publicized and a program can be developed to market and distribute them. Promotional items can be distributed through a number of venues, including watershed festivals, conferences, seminars, outdoor events, and schools. They can also accompany displays and act as rewards and incentives for participation in storm water pollution activities, such as storm drain stenciling projects. The following are some promotional items that can be used:

Posters. Posters can be an excellent option for message delivery and can be displayed widely for months or even years. Text, photos, slogans--even graphs--can be presented effectively on posters. However, they are mostly used to build awareness ("Save the Bay") or deliver a simple message ("You Drink What You Dump"). Unfortunately, production and distribution can be costly. Mailing tubes and postage can cost as much as the poster itself. Folding and mailing in large envelopes causes creases that detract from the appearance. However, if the poster design is exceptionally good, a larger or fancier version can be sold, which will help to cover production costs.

When designing the poster, the focus should be on the objective, the target audience, and the message it is to convey. Large, bold graphics (photos, artwork, etc.) will attract attention and the graphic elements should immediately convey the poster's message. Color can greatly enhance a poster, but it also increases production costs. One or two-color posters can be sufficiently attractive if they're designed well. In general, a catchy slogan or theme should be used. A slogan, photo, or design contest is a good way to obtain original artwork, or local artists can be used to create the graphics. This approach gives the poster local credibility and it supports the arts in the community. The desired size should be economical and the poster should fit into a mailer tube. Using a standard poster size is best because it is cheaper to print and is easier to obtain a frame for the poster.

Posters displayed in the community should be placed in protected and visible areas. They can be displayed in libraries, union halls, businesses, schools, recreation centers, community colleges, and any other place people gather. If the program is planning a special watershed event, the poster could promote the event. Businesses might be willing to display the poster for the event to encourage people to attend. Posters could also be given away at the event as prizes or mementos.

Bumper Stickers. Bumper stickers are highly individualized traveling billboards. Since Americans spend so much time on the road, bumper stickers offer an excellent opportunity to expose a message. A bumper sticker message should be brief, positive, and focused on the objective (e.g. "Save Our Lake"). Composition is easy--just combine a catchy message with a piece of art and it is all set! Remember to use large, bold type and keep graphics simple and easily recognizable. Check popular sizes before finalizing the design and attach a mock-up to a bumper to ensure readability. Make sure the design can be seen from a distance and the color is attractive without hindering readability.

T-Shirts and Caps. T-shirts and caps are popular items that offer high exposure to help spread the message. Simple patterns, such as a slogan and a logo or small icons work best. The watershed or region name should be included as well. Since dated materials are harder to sell after the fact, the design should be kept "timeless." Most people prefer 100-percent cotton shirts over blends and large and extra-large are the most popular sizes. Long-sleeved varieties are popular in cooler climates. When ordering the merchandise, quantities should be carefully estimated to avoid overstocks. Several suppliers should be contacted for quotes before choosing a manufacturer. Although they can be highly effective, T-shirts and hats can be relatively costly and rarely cover their production costs with sales. Production options include contracting a print shop, silk-screening T-shirts, and stenciling T-shirts in a garage.

Calendars. Calendars can be colorful, year-long reminders to protect water quality and prevent pollution. The message on each page stays in front of the target audience for a month at a time, and everyone uses them. Other environmental or community messages can be integrated into the calendar for appeal to a wider audience. If students are the target audience, a calendar based on the school year might be preferable. Some groups custom-tailor their calendar and turn it into a log of activities for the watershed, lake, or stream. People can keep track of the year's observable water events, ice-outs and freeze-up, flood events, waterfowl migrations and nestings, mammal sightings, insect hatchings, and the like.

If colorful, calendars can be expensive to produce. Moreover, they are also time-sensitive and cannot be used in future years (except for decoration). It is wise to plan for distribution to hit the market around November (when everyone is shopping for next year's calendar).

Other Items. Any number of items can be customized with a storm water pollution logo and message, including magnets, frisbees, stickers, and bags. When choosing which items to purchase, keep in mind the objectives to be accomplished. For example, magnets can be excellent for conveying storm water pollution hotlines. They can be kept handy on the refrigerator near a kitchen phone and are relatively inexpensive to produce. Key chains are also good for hotline numbers or other brief messages. Prices naturally go down with quantity, but the supply should be distributed within a reasonable amount of time.

Effectiveness

Most people will take anything that is free. The key to making promotion items effective is to make them something people can use and want. For example, key chains with a slogan can be used everyday. They are easily identifiable and might be seen by others.

Benefits

People appreciate promotional items, especially at voluntary activities. Not only do the freebies help promote an issue, but they also serve as a "thank you" to the volunteers. In addition, there is a lot of room for creativity and fun when making these items.

Limitations

The limitations of promotional items are the costs and time associated with making them. Also, there is no assurance that a free T-shirt will result in another volunteer or supporter of storm water issues.

Cost

The cost of promotional items will depend on what is being produced and how many. Generally, buying larger numbers of an item will reduce unit costs. However, it is not wise to buy so many items that it will be impossible to resell them or even give them all away. The objectives as well as the target audience should be considered when ordering. Some costs for various outreach materials are provided in Table 1, but these are only estimates. Individual vendors should be contacted when preparing the budget.

Table 1. Estimated costs for promotional items (Source: COSG, no date)

Item	Cost	Description
Magnets	\$0.23 each for a quantity of 1,000	two-color, business card size
Canvas tote bags	\$2.20 each for a quantity of 1,000	one-color, two-sided
Stickers	\$0.07 each for a quantity of 1,000	one-color, 3-inch circle
Frisbees	\$0.68 each for a quantity of 1,000	8-inch
Posters	\$2.50 each for a quantity of 5,000	4-color, 11 inch X 17 inch folded
Pens	\$0.59 each for a quantity of 5,000	ballpoint, one-color, capped
Mugs	\$1.00 each for a quantity of 1,000	one color on solid standard mug
Caps	\$5.00 each for a quantity of 6,000	or less embroidery on cotton twill
T-shirts	\$2.50 each for a quantity of 1,000	500 large and 500 extra large, single color on white, silk screen
Lapel pins	\$1.38 each for a quantity of 1,000	

References

Environmental Health Coalition. 1992. *How to Create a Storm Water Pollution Prevention Campaign*. Environmental Health Coalition, San Diego, CA.

The Council of State Governments. No date. *Getting in Step A Guide to Effective Outreach in Your Watershed*. The Council of State Governments, Lexington, KY.

Pollution Prevention For Businesses

Public Education and Outreach on Storm Water Impacts

Description

Pollution prevention (P2) is the combination of activities that reduce or eliminate the amount of chemical contaminants at the source of production or prevent this waste from entering the environment or waste stream. P2 occurs when raw materials, water energy, and other resources are used more efficiently, when less harmful substances are substituted for hazardous ones, and when toxic substances are eliminated from the production process. P2 can be accomplished through such methods as source reduction, reuse/recycling, and energy recovery. Source reduction is the preferred method of P2 and allows for the most significant improvements in environmental protection by avoiding the generation of waste. Reuse/recycling and energy recovery also are effective means of P2.



Businesses can accomplish pollution prevention by providing receptacles for recycling

Applicability

P2 plans take many forms but are applicable to almost every community and industry sector. Municipalities should educate business owners to plan and implement a P2 program. However, before implementing a P2 plan, it is important to evaluate the businesses in your community to determine the most efficient and effective plan. Attending or planning a P2 conference or becoming a member of a P2 organization with other communities can spur networking and information sharing. In addition, businesses in your community can frequently increase their publicity, recognition, and patronage through being a member of such P2 organizations.

Implementation

P2 in your community can be accomplished through methods such as source reduction, reuse/recycling, and energy recovery. While there is no one plan that fits all, many of these methods can be implemented anywhere.

Source Reduction.

- Incorporating environmental considerations into the designing of products, buildings, and manufacturing systems enables them to be more resource efficient.
- Rethinking daily operations and maintenance activities can help industries eliminate wasteful management practices that increase costs and cause pollution.
- Controlling the amount of water used in cleaning or manufacturing can produce less wastewater.
- Re-engineering and redesigning a facility or certain operation can take advantage of newer, cleaner and more efficient process equipment.
- Buying the correct amount of raw material will decrease the amount of excess materials that are discarded (for example, paints that have a specified shelf life).

Reuse/Recycling.

- Using alternative materials for cleaning, coating, lubrication, and other production processes can provide equivalent results while preventing costly hazardous waste generation, air emissions, and worker health risks.
- Using "green" products decreases the use of harmful or toxic chemicals (and are more energy efficient than other products).
- One company's waste may be another company's raw materials. Finding markets for waste can reduce solid waste, lessen consumption of virgin resources, increase income for sellers, and provide an economical resource supply for the buyers.

Energy Recovery.

- Using energy, water, and other production inputs more efficiently keeps air and water clean, reduces emissions of greenhouse gases, cuts operating costs, and improves productivity.

In order to assist the businesses in your community in implementing these techniques, a local government can create and maintain a database of local government information on P2. In addition, a community can prepare and distribute a Pollution Prevention Week Planning Guide that will educate businesses in your community about these techniques.

Benefits

Adopting a P2 plan can benefit your community both environmentally and economically. P2's health and environmental benefits include cleaner air and water, fewer greenhouse gas emissions, less toxic waste to manage, less solid waste going to landfills, greater workplace safety, and better stewardship of natural resources. This can also lead to a reduction in workplace exposures to hazardous materials, which can affect workers' health and productivity.

P2's economic benefits include greater business efficiency, increased competitiveness, and reduced costs for regulatory monitoring and compliance. By preventing the generation of waste, P2 can also reduce or eliminate long term liabilities, clean-up, storage, and disposal costs. Finally, by preventing pollution there is a greater likelihood that a company will be in compliance with local, state, and federal statutes.

Limitations

It is important for a municipality to provide clear guidance to business owners for pollution prevention to be effective. Although a new pollution prevention program may require initial investments of time and money, by clearly outlining the benefits of a pollution plan, you encourage the businesses in your community to adopt such a plan. It might also be difficult to understand the importance of a P2 program. At first, the costs to start such a program could look high, but keep in mind that prevention can lead to financial gains.

Effectiveness

As previously stated, a P2 plan can benefit your community both economically and environmentally. P2 can reduce pollution discharges from businesses in your community and decrease the cost of their operations. For example, vehicle washing produces chemicals, dirt, and grease, which find their way untreated into waterways. However, a tour company in Seattle installed a collection system that recycles approximately 92 percent of water used for bus washing. The company has reduced wastewater discharges and, as a result, has cut its water bill by approximately \$1,000/month during the peak season. In addition, a container company that installed a closed-loop water recycling system has reduced water consumption in its freight container washing operations by approximately two-thirds. (National Pollution Prevention Roundtable, 2000).

Costs

The costs for a municipality to implement or expand a P2 program vary. Costs to initiate a program may be significant due to education, training, and infrastructure investments. However, these costs vary with the type of business and with the extent to which the pollution plan is implemented. There are programs currently being implemented nationwide on a variety of scales.

Santa Clara County, California, has implemented a Pollution Prevention Program aimed at providing technical assistance through workshops, periodic newsletters, and fact sheets, and by implementing a Green Business Program. This program uses three full-time employees (FTE) and has an annual budget of approximately \$300,000.

The City of Boulder, Colorado, has implemented Partners for a Clean Environment (PACE) that is a voluntary, non-regulatory program which offers free pollution prevention education, technical assistance, and recognition to Boulder County businesses. PACE staff identifies P2 outreach needs, compiles information, and motivates businesses to reduce emissions and waste voluntarily. PACE staff estimates that in 1999, participating businesses reduced air emissions by 25 tons/year, hazardous waste by approximately 3,900 gallons/year, wastewater discharges by over 35,000 gallons/year, and solid waste by over 630 tons/year. This P2 program uses approximately 1.5 FTEs and has an annual budget of \$58,000.

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